SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR
RIO GRANDE BASIN

May 1, 1939

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Bureau of Agricultural Engineering of the U. S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to April 30	Departure from Normal	Precipitation April	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	6.18	+1.07	1.31	+0.12
Rio Grande	Colorado	4.81	+0.85	0.31	-0.43
Rio Grande	New Mexico	7.65	+0.09	1.02	-0.15
Pecos	New Mexico	5.38	+0.24	0.75	-0.14

SUMMARY

The amount of water in storage in the reservoirs in the San Luis Valley on May 1, was 40 percent greater than last year at this time. Storage in Elephant Butte Reservoir was 20 percent more than it was a year ago and is 21 percent greater than normal. Storage in Caballo Reservoir is twice as great as it was last year, but is still only 12 percent of the capacity of the reservoir. Soil moisture conditions in agricultural areas are good in the San Luis Valley in Colorado and above Santa Fe in New Mexico and normal in the lower Rio Grande Valley.

The water content of snow on the snow courses on the watershed of the Rio Grande in Colorado on May 1 was 4.5 inches; a year ago it was 10.4 inches. The four-year average for this area is 7.7 inches. Practically all the snow on the courses in New Mexico has melted, but there is still considerable snow at elevations over 11,000 feet.

Warm weather in March and April caused early runoff from the watershed of the Rio Grande and, although the streamflow is holding fairly constant, the runoff from snow will be considerably less than it was last year. Since there is more than the usual amount of water in storage at this time, it is not anticipated that there will be a serious shortage of water for irrigation.

RIO GRANDE

Summary of Federal and State Cooperative Snow Surveys

Bureau of Agricultural Engineering, U. S. Dept. Agri.; Forest Service; Colo. Agri. Expt. Station
Issued May 10, 1939. Colo. Expt. Station, Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	Location			Elev.	National Forest	May 1 Snow Course Measurements					
			State	Locality	Description			Av. Snow Depth			Av. Water Content		
								Avg.	1938	1939	Avg.	1938	1939
								In.	In.	In.	In.	In.	In.
	RIO GRANDE												
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr. Pass	4-37N-2E	10000	Rio Grande	54.8	68.4	40.4	26.0	33.7	18.3
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	" "	0.0	0.0	0.0	0.0	0.0	0.0
74	LaVeta Pass No.2	San.CristoCr.	"	LaVeta Pass	22-28S-70W	9300	Off Forest	0.9#	1.0	0.0	0.4#	0.5	0.0
47	Silver Lakes	Alamosa R.	"	1mi.S.Silver L.	15-36N-5E	9600	Rio Grande	0.0	0.0	0.0	0.0	0.0	0.0
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "	2.0	0.8	0.0	0.7	0.3	0.0
75	Ute Ridge	Rio Grande	"	Rio Grande Res.	31-41N-4W	9700	" "	---	---	0.0	---	---	0.0
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	" "	---	---	47.8	---	---	16.7
77	Cumbres Pass No.2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	32.9#	44.3#	13.1	19.4#	28.0#	5.6
80	Santa Maria	N.Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	" "	---	---	0.0	---	---	0.0
					Average for Drainage			15.1	19.1	11.3	7.7	10.4	4.5

#Readings on original course.

Reservoir Storage in Acre-Feet, Rio Grande Drainage, as of May 1, for the Years 1930-1939 inclusive.
(Based on data gathered by the State Engineer of Colorado and the U. S. Bureau of Reclamation)
A = Percentage of capacity. B = Percentage of 10-year average. Units in thousands of acre-feet.

Reservoir	Capacity	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	10-yr Avg.	A	B
	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	%	%
Rio Grande	45.8	34.0	5.7	2.7	15.3	4.9	0.3	23.6	16.2	17.5	36.7	15.7	80	234
Santa Maria	45.0	29.9	12.0	4.8	7.0	6.8	4.6	6.9	9.5	10.8	15.1	10.7	34	141
Sanchez	25.9	13.0	12.7	10.2	10.2	12.0	7.4	13.8	17.6	19.2	22.9	13.9	88	165
Terrace	17.7	7.0	1.0	1.9	0.6	1.4	1.3	6.4	4.5	9.6	7.5	4.1	42	183
Continental	26.7	6.7	0.9	0.0	6.5	2.6	0.8	3.3	0.5	4.0	4.3	3.0	16	143
Elephant Butte	2273.7	1598.9*	1238.2*	1168.0*	1275.3*	1001.6*	488.0*	782.5	917.1	1099.0	1319.3	1088.8	58	121
El Vado	226.0	---	---	---	---	---	---	---	---	148.6	87.4	---	39	---
Caballo	365.0	---	---	---	---	---	---	---	0	14.5	44.7	---	12	---

*Based on capacity of 2,407,100 acre-feet